

Municipal 3Rs in Ontario: 2001

Fact Sheet



Ministry of the
Environment



Recycling Council
of Ontario



The voice and resource for municipal
waste minimization and management

The Composting Council of Canada
Le Conseil canadien du compostage

You've done it again Ontario! 2001 was the sixth consecutive year that you increased your rates of reducing, reusing and recycling. In 2001 tonnage diverted from disposal rose 7.6% (to 1,381 million tonnes, up from 1,284 million reported in 2000).

Municipalities also outdid themselves when it comes to household access to recycling programs. In 2001 we saw access to recycling increase by 230,000 people. Great work everyone!

Information on this *Fact Sheet* was gathered for the second consecutive year through the use of an online survey for municipalities. Responses were received from 164 programs, representing about 98% of Ontario's households served. Results are summarized in the table below, and individual topics are elaborated upon in the following pages.

Continuing increases can be linked to the monetary and knowledge investments that were made to various municipal diversion programs through the interim Waste Diversion Organization (WDO). These monies and shared expertise helped existing programs continue to grow. New programs were also able to increase waste diversion, most notably in household special waste (HSW) and composting.

Highlights (Compared to 2000)

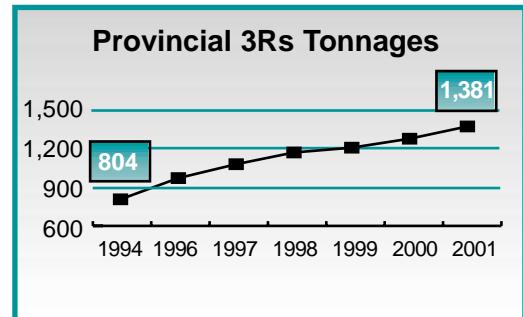
- The increase in households with access to recycling increased from 2000 to 2001 by 5.7% with 4,297,000 households having access to recycling in 2001.
- Residential recycling tonnage increased by 3.7%, to 699,000 tonnes.
- Over 10.96 million people Ontario-wide had access to HSW programs in 2001, an increase of over 470,000 from 2000.
- HSW tonnage increased by 3.9%, to 9,216 tonnes.
- Centralized composting programs processed 325,000 tonnes of organic material from Ontario municipalities in 2001, a 13.2% increase from 2000.

Highlights of Municipal 3Rs Results (data in 000's)

Year	1996	1997	1998	1999	2000	2001	00 to 01 % change
Provincial households	4,053	4,119	4,238	4,387	4,453	4,532	1.8
Households with curb and/or depot access to recycling	3,484	3,730	3,850	3,983	4,067	4,297	5.7
Households provided with compost bins	1,000	1,050	1,110	1,120	1,148	1,190	3.7
Households with curb and/or depot collection of organics*	3,323	3,560	3,746	3,874	3,944	4,014	1.8
Provincial population	11,100	11,300	11,400	11,500	11,700	11,900	1.7
Population with HSW access	n/a	9,800	9,900	10,000	10,490	10,960	4.5
Provincial 3Rs tonnage: all activities	972	1,082	1,175	1,213	1,284	1,381	7.6
Residential recycling: tonnes	532	595	631	658	674	699	3.7
Municipally collected IC&I recyclables: tonnes	30	17	29	26	47	45	(3.2)
IC&I recyclables tipped at municipal MRFs	n/a	n/a	n/a	29	54	84	54.7
Other recyclables (e.g., C&D, whitegoods): tonnes	100	79	108	100	98	100	2.1
Estimated backyard composting tonnes	100	105	111	112	115	119	3.7
Centralized composting: tonnes	210	280	290	281	287	325	13.2
Household Special Waste (HSW): tonnes	n/a	5.82	6.25	6.36	8.87	9.22	3.9

*mostly leaf & yard waste

Figure 1



RESIDENTIAL RECYCLING IN ONTARIO

Table 1 summarizes the materials collected from 1996 to 2001 and illustrates the recovery on a kilograms per household basis for each material type.

Figure 2 shows that over the last 10 years, there has been a 74% increase in the amount of recovered recycling materials while between 2000 and 2001 there has been an increase of 3.7%. This is higher than the increase seen between 1999 and 2000 where the increase was 2.4%. **Figure 3** illustrates the growth in households with access to recycling with a 43% increase since 1992. The increase between 2000 and 2001 was 5.7% with 4,297,000 households having access to recycling in 2001. **Figure 4** shows the individual material categories and their tonnes for 1996 to 2001. Paper has historically been the most significant proportion in the blue box followed by glass, metal and plastic. **Figure 5** illustrates the quantities of paper, glass, metal and plastic recovered as a percent of total recovery in 2001.

Table 1: Composition of Materials Recycled

Material	Tonnes (000's)						00 to 01 % change	Kilograms per HHLD						00 to 01 % change
	1996	1997	1998	1999	2000	2001		1996	1997	1998	1999	2000	2001	
Paper	367	429	462	492	513.7	526.2	2	105	115	120	122	126	122	(3)
Glass	104	102	100	101	94.9	102.6	8	30	27	26	25	23	24	2
Plastic	16	20	22	22.2	22.8	26.9	18	4.5	5.4	5.7	5.6	5.6	6.3	11
Metal (subtotal):	45	44	47.4	43.3	42.6	43.5	2	13	11.8	12.3	10.9	10.5	10.1	(3)
Aluminum Cans & Foil	10.5	11.0	12.8	11.1	10.6	10.9	3	3	2.9	3.3	2.8	2.6	2.5	(3)
Ferrous Containers	34.7	33.0	34.6	32.2	32.0	32.6	2	10	8.8	9.0	8.1	7.9	7.6	(4)
TOTAL	532	595	631	658	674	699	4	153	159	164	165	166	163	(2)
Households Served (000's)	3,484	3,730	3,850	3,983	4,067	4,297	6							

Discrepancies are due to rounding.

Figure 2

Recycling Tonnages 1992-2001

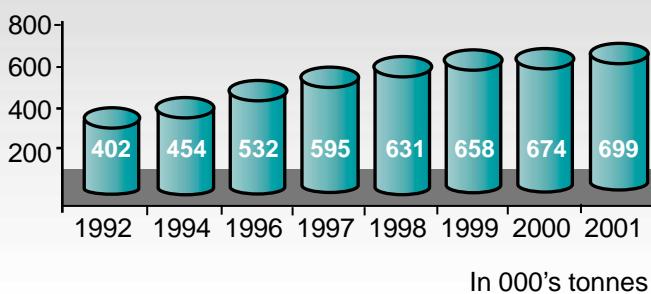


Figure 3

Household Access to Recycling 1992-2001

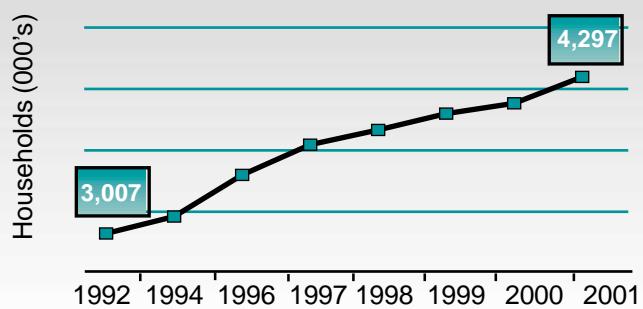


Figure 4

Tonnage Composition 1996-2001

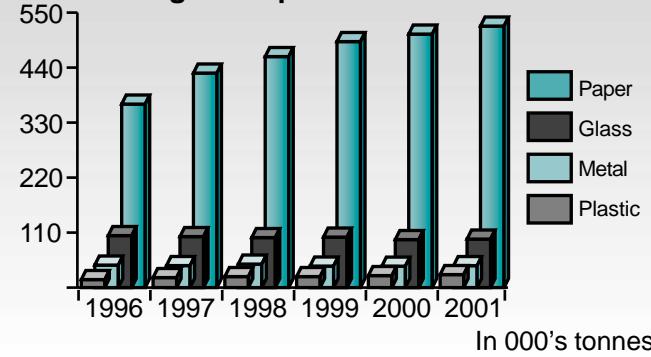
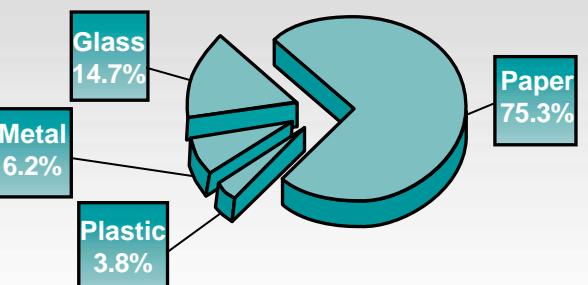


Figure 5

2001 Materials Recycled



HOUSEHOLD SPECIAL WASTE

Over 10.96 million people Ontario-wide had access to HSW programs in 2001, an increase of over 470,000 from 2000. The number of event days increased by 22 to 210 while the number of depots increased by 3 to 65. The total number of HSW programs was 70, an increase of 5 programs from 2000. Efforts continued to work with programs to standardize lab pack and other unit conversions for both paint and flammables/organics.

The quantity of liquid HSW diverted from sewers and landfill was estimated as 7.28 million litres and the amount of solid HSW was 1.94 million kilograms. The liquids included acids, antifreeze, bases, flammables, inorganic oxidizers, oil, organic oxidizers, paints and pesticides. The solids included aerosol cans, car batteries, dry cell batteries, oil filters, pharmaceuticals, propane tanks and cylinders, syringes, and miscellaneous. The liquid HSW has increased significantly since 1999 due in part to the conversion changes in both paint lab packs and flammables/organics lab packs.

In 2001, 36 programs reported operating "Use-it-Up" areas, up 6 programs from 2000. In 2001, 28 programs are aware of retail or manufacturer take back programs for HSW. The number of programs collecting fluorescent tubes dropped to 8 programs from 15 in 2000.

21 programs reported that they participated in the rechargeable battery "Charge Up to Recycle" program.

Figure 6

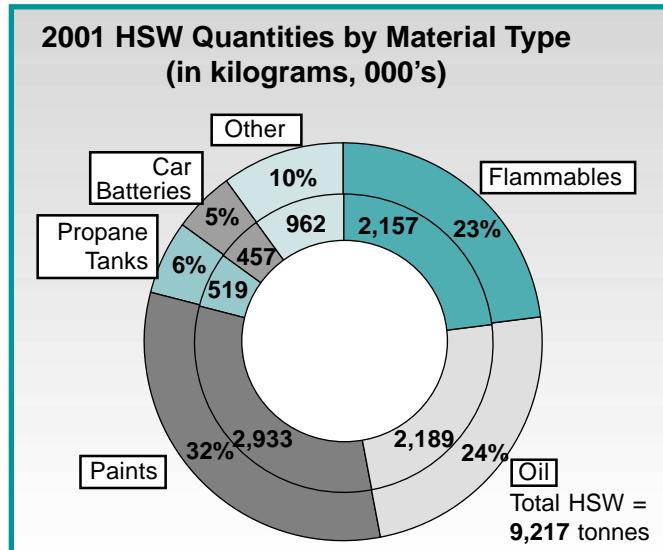


Table 2: Overview of Ontario HSW Programs

Category	1996	1997	1998	1999	2000	2001
Programs	61	54	58	70	65	70
Depots	n/a	48	51	64	62	65
Events	n/a	152	167	173	188	210
People Served (millions)	n/a	9.8	9.9	10.0	10.49	10.96
Municipalities Served	n/a	<300	280	327	~303	300
Total HSW Diverted (tonnes, 000's)	n/a	5.82	6.25	6.36	8.87	9.22
Paint: tonnes	n/a	1.41	1.20	1.38	2.92	2.93
Oil: tonnes	n/a	1.57	1.71	2.03	1.91	2.19
Flammables: tonnes	n/a	1.26	1.14	1.03	2.23	2.16
Car Batteries: tonnes	n/a	0.76	0.81	0.81	0.66	0.46
Propane Tanks: tonnes	n/a	0.29	0.37	0.27	0.30	0.52
Other: tonnes	n/a	0.53	1.03	0.84	0.85	0.96

Table 3: Types of HSW Programs Offered in 2001 in Ontario

No. & Type of Program	Summary	People Served (000s)
26 Depot Only	39 Depots	3,570
28 Event Days Only	65 Events	720
16 Combination — Depots and Event Days	26 Depots & 145 Events	6,670
70 HSW Programs	65 Depots 210 Event Days	10,960

CENTRALIZED COMPOSTING ACTIVITY

Centralized composting programs processed 325,000 tonnes of organic material from Ontario municipalities in 2001. This represents a 13.2% increase from the previous year. The number of municipalities providing this service dropped slightly from 2000, but this is due to municipal amalgamations. As well almost 90% of Ontario's households are in municipalities providing this service.

Leaf & yard waste materials in addition to grass clippings and Christmas trees constitute the principal sources of organic feedstocks. 6 municipal composting programs also collected approximately 8,500 tonnes of food materials at curbside (3% of the total feed material).

Three quarters of the composting programs use windrow as their composting method; 21% use static pile; 4% use the in-vessel method.

Residential use is the primary means of compost demand followed by municipal public works departments, landscapers, topsoil blenders, and landfill cover. Uses in garden centres, agriculture, land reclamation and in the greenhouse industry continue to represent an opportunity.

Table 4: Changes in Composting Activity

Year	1994	1996	1997	1998	1999	2000	2001	00 to 01 % change
No. of programs	30	32	67	74	77	84	84	0
No. of municipalities ¹	152	150	241	235	217	199	190	(5)
Households w/access to service (000's)	3,070	3,323	3,560	3,746	3,874	3,944	4,014	2
Tonnes processed (000's)	149	219	280	290 ²	281 ³	287	325	13
Kgs/hhld with access	48.5	65.9	78.7	77.4	72.5	72.8	81.0	11

¹ The decline since 1997 is the result of municipal amalgamations.

² Unusually high tonnage reflects material resulting from 1998 ice storm.

³ There are 13 small programs which did not report tonnes. These programs represent approximately 70,000 households with access to central composting. Twenty-three thousand tonnes have been estimated for these programs and included in the total of 281,000 tonnes.

BACKYARD COMPOSTING ACTIVITY

The number of compost bins distributed by Ontario municipalities to-date is 1.19 million. Over 74% of municipalities subsidize the sale of compost bins to residents. Based on municipal composting participation studies, it is estimated that residential participation rates continue to remain high (half the studies reported an ongoing participation rate of 75% or greater).

Table 5: Backyard Composting Participation and Results

Year	1994	1996	1997	1998	1999	2000	2001	00 to 01 % change
No. of municipalities providing units ¹	449	481	427	419	393	380	367	(3)
Households provided with compost bins (000's)	900	1,000	1,050	1,110	1,120	1,148	1,190	4
Kilograms per unit diverted ²	100	100	100	100	100	100	100	n/a
Approximate tonnes diverted (000's)	90	100	105	111	112	115	119	3

¹ The decline since 1997 is the result of municipal amalgamations.

² Estimated backyard composting tonnes have been adjusted to 100 kilograms per unit to reflect more accurately tonnage diverted from this activity.

MUNICIPAL PROGRAM RECOVERY RATES

Table 6 shows material recovery rates for municipal recycling programs in Ontario.

Table 6: Typical Municipal Program Recovery Rates

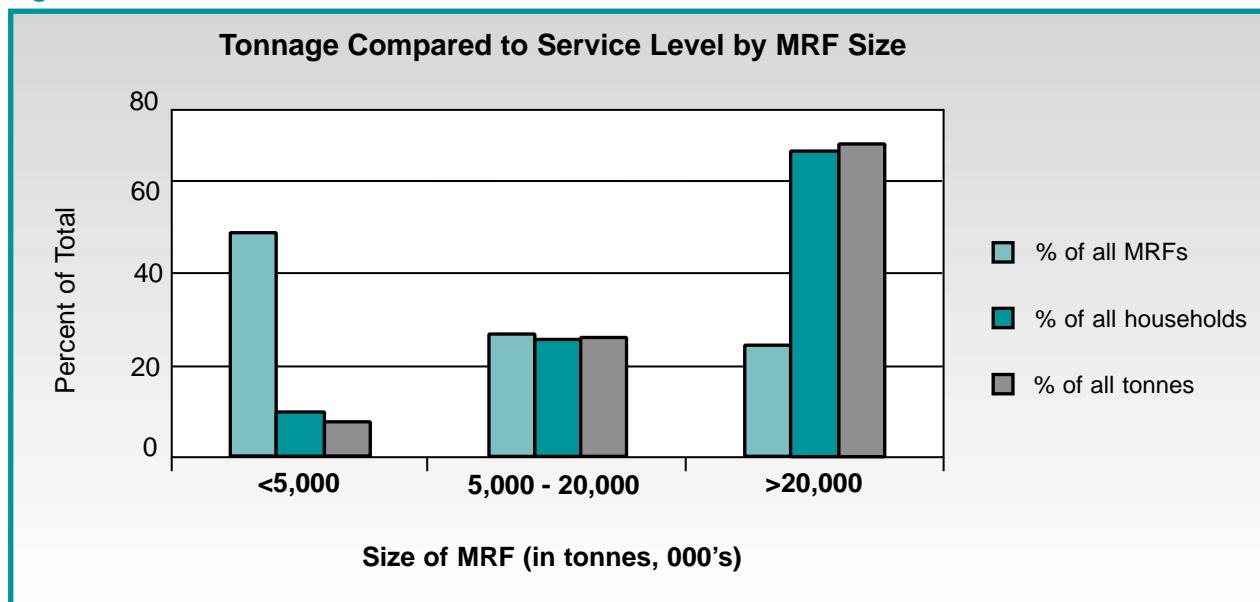
Program Type	% of Households with access to recycling	Kilograms per Household					Total
		Paper	Glass	Metal	Plastic		
Curbside	81	127	25	10	6	168	
Depot	3	76	15	12	5	108	
Curbside & Depot	16	108	22	12	7	149	
Total	100						

- 63% of recycling programs offer curbside collection, representing 81% of all households with access to recycling.
- 3% of all households recycle through a depot program, which accounts for 18% of recycling programs in Ontario.
- The curbside recovery rate of 168 kgs/hhld has increased by 1.8% since 2000 (165 kgs/hhld).

MUNICIPAL RECYCLING INFRASTRUCTURE

Figure 7 categorizes material recovery facilities (MRF's) by the annual municipal tonnage handled. Most of these facilities sort and bale recyclable materials and ship them to markets. Some of the small sites sort but do not bale. Some sites handle material from IC&I sources exclusively, and these sites are excluded from this analysis.

Figure 7



- 63 MRFs in Ontario received recyclables from municipal collectors in 2001, the same as 2000.
- 49% (51% in 2000) of the MRFs each handled less than 5000 tonnes per year and served 9% of the households (12% in 2000).
- 27% (24% in 2000) each handling 5,000 to 20,000 tonnes per year served 25% of households (the same in 2000). 20% (25% in 2000) each handling more than 20,000 tonnes per year served 66% of households (63% in 2000).

DATA COLLECTION METHODOLOGY

This report is the product of a partnership of seven organizations: the Ontario Ministry of the Environment's Waste Management Policy Branch (MOE), CSR: Corporations Supporting Recycling, the Municipal Chief Administrative Officer Bench Marking Group (CAO), Recycling Council of Ontario (RCO), the Association of Municipal Recycling Coordinators (AMRC), the Municipal Waste Integration Network (MWIN) and the Composting Council of Canada (CCC). For the second time, the 2001 data call was made available online for municipalities to complete. The partners generated and distributed passwords and a web address for municipalities to log in and access their survey, validated the returned data, developed estimates covering the municipalities that did not report quantities, and produced the fact sheet. The partnership approach relieves municipal waste management professionals from responding to five or six similar annual surveys, and avoids publication of contradictory reports. This is the fifth update of the partnership's original *Fact Sheet* published in October 1997 regarding 1994 and 1996 activities.

The Municipal 3Rs Survey form was used to collect information from 193 known municipal 3Rs programs across Ontario. Survey responses were received from 164 programs, from about 98% of Ontario's households. Tonnages have been estimated for the 29 non-responding programs by making an estimate based on the performance of similar programs.

The survey responses have been checked for inconsistencies with respect to topics covered in this *Fact Sheet*. Checking will continue as analyses proceed. Respondents are contacted for clarification when inconsistencies appear.

The partners wish to thank all municipal staff who participated in the survey and whose contributions are the key ingredients in

this *Fact Sheet*; i.e., the facts themselves. The partners look forward to continuing to share summarized information and analyses, and to expanding it through follow-up and subsequent surveys.

INFORMATION SOURCES:

2001: 3Rs Information Partnership 2001 data survey
2000: 3Rs Information Partnership 2000 data survey
1999: 3Rs Information Partnership 1999 data survey
1998: 3Rs Information Partnership 1998 data survey, and AMRC's survey of HSW programs
1997: 3Rs Information Partnership 1997 data survey, and AMRC's more detailed survey of HSW programs
1996: 3Rs Information Partnership 1996 data survey
1994: MOE Highlights - 1994 Waste Diversion by Ontario Municipalities
1992: OMMRI Overview of 1992 published in April 1993
Populations: Statistics Canada, CANSIM, Matrices 6367-6378 and 6408-6409
Households: Ontario Ministry of Municipal Affairs and Housing

ACKNOWLEDGMENTS:

This report would not have been possible without the special contributions of the following people: Jason Cline, Joe Hruska, Cynthia Hyland, Beverly Stone and Donald Wiedman.

DISCLAIMER:

The information contained in this report is derived from data submitted by survey respondents. The partners cannot and do not make any representation as to the accuracy of the data provided by survey respondents.

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